

# VOLCANOES!

## Activity Sheet 3.1a Tracking an Ash Cloud

*Volcanic ash can be a serious hazard to jet airplanes when they are flying. Because pilots may not see volcanic ash clouds, they can fly into them. When ash is sucked into a jet engine, it can cause the engine to stall.*

*Fortunately, when this has occurred, the pilots were able to restart their engines, but only after losing many thousands of meters in altitude.*

**You are air traffic controllers** and you have just received a warning that there was a major eruption of Mount St. Helens this morning. The air space you monitor is in the path of an ash cloud. Your job is to calculate approximately how many hours it will take the ash cloud to move into the air space you monitor. **The warning notice states that the ash cloud is moving at a rate of 96 kilometers per hour (60 miles per hour).**

Knowing how fast the ash cloud is moving, **your job is to calculate approximately how many hours (the time) it will take the ash cloud to reach your air traffic control tower.**

### What to do

List the following information:

1. On the map, find the location of your tower: Mark it on the map.
2. Find Mount St. Helens. Mark it on the map.
3. Look at the map legend. Calculate the number of kilometers (distance) your tower is from Mount St. Helens. My tower is \_\_\_\_\_ kilometers from Mount St. Helens.
4. Use this formula to find how many hours (time) it will take the ash cloud to reach your tower.

Distance

$$\frac{D}{R \times T}$$

Rate (speed) x Time

5. The ash cloud will reach your air traffic control tower in \_\_\_\_\_ hours.